

19. Feb. 2001

PCT/EP00/00877  
EMBL

## New claims

1. A DNA sequence,  
**characterized** in that it encodes a protein that is capable of inducing oocyte maturation and/or modulating cell division and contains:
  - (a) a sequence as shown in SEQ ID NO.1 or 2,
  - (b) a sequence which encodes the same protein as (a) but is degenerate as a result of the genetic code,
  - (c) a sequence hybridizing under stringent conditions to the sequences of (a) and/or (b),
  - (d) a sequence according to (a), (b) or (c), wherein this sequences contain one or more introns,
  - (e) a sequence which differs from (a), (b), (c) or (d) due to its origin from a different species, but encodes a protein with the same or a very similar activity.
2. A DNA sequence according to claim 1,  
**characterized** in that it further contains expression control sequences operably linked to the coding DNA sequence.
3. Expression vector,  
**characterized** in that it contains a DNA sequence according to anyone of claims 1 or 2.
4. Protein  
**characterized** in that it is encoded by a DNA sequence according to anyone of claims 1 or 2.
5. Protein according to claim 4,  
**characterized** in that it contains an amino acid as shown in SEQ ID NO.3 or 4.

6. Protein according to claim 4 or 5,  
**characterized** in that it shows an oocyte maturation inducing activity and/or a cell division modulating activity.
7. Protein according to anyone of claims 4 to 6,  
**characterized** in that it contains deletions, substitutions and/or additions of amino acids that do not substantially affect its activity.
8. Protein according to anyone of claims 4 to 7,  
wherein a second protein is fused to build a fusion protein.
9. Use of a protein according to anyone of claims 4 to 8 for inducing oocyte maturation and/or modulating cell division and/or differentiation and/or proliferation.
10. Pharmaceutical composition containing as active agent a protein according to anyone of claims 5 to 8.
11. Pharmaceutical composition according to claim 10, containing the protein in combination with a pharmaceutically acceptable carrier or adjuvant.
12. Use of a pharmaceutical composition according to claim 10 or 11 for modulating cell proliferation, cell differentiation, or for fertility treatments.
13. Use of a protein according to anyone of claims 4 to 8 as a diagnostic marker for cell proliferation and/or cell differentiation.
14. Use of a protein according to claims 4 to 8 as a target for the identification of drugs that modulate cell cycle progression and/or cell proliferation and/or cell differentiation.
15. Use according to claim 14 for the development of pharmaceuticals for

the treatment of cancer or other pathological situations with uncontrolled cell proliferation.

16. Use of a DNA sequence according to anyone of claims 1 or 2 or a part thereof as diagnostic marker for cell proliferation and/or cell differentiation for hybridization experiments to determine the amount of homologous nucleic acid sequences.